REMARKS

The non-final Office Action dated February 22, 2010, indicated the following rejections under 35 U.S.C. § 103(a): claims 1-7, 9-20, 30-37, 39 and 43-45 stand rejected over Akimoto *et al.* (US 2002/0117689) in view of Yee *et al.* (U.S. 5,736,890); claim 8 stand rejected over the '689 and '890 references, and further in view of Baba (US 5,589,696); and claims 21-29 stand rejected over Mizutani *et al.* (U.S. 5,616,944) in view of the '696 and '890 references. Applicant respectfully traverses each of the rejections, and in the discussion set forth below, does not acquiesce to any rejection or averment in this Office Action or the Office Action(s) of record unless Applicant expressly indicates otherwise. As various rejections continue to rely upon assertions as previously made, Applicant fully incorporates its traversals of records herein.

Applicant appreciates the Examiner taking the time in the recent telephone interview with the undersigned to elaborate on her position regarding certain claim limitations. As discussed in this interview, Applicant explained that various portions of the M.P.E.P. (and relevant law) support the well-established understanding that functional limitations pertaining to claimed structure must be given patentable weight. Applicant would further note that the U.S.P.T.O. has allowed thousands of patent applications with claims defined using functional language, as particularly relevant to circuit-based limitations as applicable here. For the reasons outlined below, Applicant believes the claims to be allowable. Should the Examiner have any questions regarding the arguments below, Applicant encourages the Examiner to telephone the undersigned.

Applicant respectfully traverses the § 103(a) rejections of all outstanding claims. The Office Action has failed to properly assert correspondence to all claim limitations as required by the M.P.E.P., by ignoring certain claim limitations based upon an assertion that "limitations regarding method of operating the device are not given patentable weight," which contradicts M.P.E.P. §§ 2143.03, 2173.05(g) and relevant law. As applicable here, the M.P.E.P. requires that all claim limitations be evaluated and considered, including functional limitations. "A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used." M.P.E.P. § 2173.05(g). The Office Action attempts to ignore certain aspects of the claimed invention including those relating to a control circuit structurally configured to apply a control signal to modulate the effective length of the intermediate region, without considering

how the limitation would be understood by one of skill in the art. In not considering the function of the control circuit, the Office Action has failed to assert correspondence to certain claim limitations. Accordingly, the § 103(a) rejections of all outstanding claims are improper.

The Office Action's attempt to ignore various claim limitations further appears to be based on an erroneous interpretation of case law and sections of the M.P.E.P. It appears the Office Action is relying on M.P.E.P. § 2114 for the proposition that "claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function." This position is flawed because under M.P.E.P. § 2114 and long-standing case law, such language is deemed functional and not afforded patentable weight in certain instances when it is found only in the preamble (*i.e.*, before the "comprising:" clause). In this case, the language at issue is in the body of the claim. Further, M.P.E.P. § 2114 allows for a structure to be defined functionally. Accordingly, M.P.E.P. § 2114, along with the above references to M.P.E.P. §§ 2143.03 and 2173.05(g), require that the Examiner considers the structural limitations conveyed through the functional language of the claim.

In view of the above, the claimed control circuit has function which cannot be ignored. In the areas of semiconductors, processors and electrical circuits in general, structural circuitry has long been described by the function the circuit performs, and the characteristics of the signal resulting from use of the circuitry. For example, if a claim were to recite an analog to digital converter, one of skill in the art would understand that a particular structure corresponded to the converter even though it has been described in terms of its function. In the instant case a control circuit with a specific structure is being claimed. That structure is being defined by the function it is asserted to perform. The claim limitations require a control circuit configured to apply a control signal that modulates the effective length of the intermediate region when the body is reversed biased. Because the control circuit has structural characteristics related to the function it performs, the limitations cannot be ignored. Accordingly, the current § 103(a) rejection is improper for failing to assert correspondence to all limitations.

The § 103(a) rejections are also improper because the Office Action fails to meet the burden of proof for inherency under M.P.E.P. § 2112. Section 2112 requires that the Office Action show that the asserted reference, in this case the '689 reference, is substantially identical to the claimed invention. The Office Action has failed to do so, and acknowledges that the '689 reference lacks a control circuit as claimed. Further, "[t]he fact that a certain result or

characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." M.P.E.P. § 2112. The Office Action has failed to provide evidence establishing that the missing limitations are necessarily present in support of the assertion of inherency. Instead, the Office Action simply states the asserted combination "would function/operate as claimed." Applicant submits that this assertion is untenable, not only because it is devoid of any explanation as to how the alleged control circuit would operate, but also because it appears that the asserted "control circuit" in the Yee reference operates in a different manner. Specifically, the cited portions of the Yee reference teach operation for "minimizing" undesirable reverse conduction problems, by "[u]pon sensing a reverse characteristic (voltage or current), the SRMOS reverse biases to cut off any current flow" (*see* column 3:14-20). This approach to cutting off current flow via reverse bias fails to correspond to the claimed modulation of a channel region "to a non-zero value" under reverse-biased conditions, which is done to effect an opposite result (ensuing current flow via avalanche breakdown). In an effort to assist the Examiner's understanding, Applicant refers the Examiner to page 8:14-25 of Applicant's specification. Accordingly, the Office Action has failed to present a *prima facie* case of inherency with respect to the features of the claimed control circuit. Therefore, the § 103(a) rejection of all outstanding claims is improper.

Applicant further traverses the § 103(a) rejection of all claims because the proposed combination of references lacks correspondence to the claimed invention "as a whole"(§ 103(a)). For example, none of the references teach a control circuit applying a control signal to modulate the effective length of the intermediate region. Instead, the control circuit of the '890 reference, asserted in all the § 103(a) rejections, is used to turn on and off a SRMOS device with no mention of the signal affecting the effective length of the intermediate region of the SRMOS device. As discussed above, the cited operation under reverse voltage/current conditions is effective to completely cut off any current flow, which further teaches away from the claimed approach to modulating the channel length under reverse-bias conditions in order to effect an avalanche breakdown (current flow) condition, contrary to relevant case law and the M.P.E.P. As consistent with the recent *KSR* decision, M.P.E.P. § 2143.01 explains the long-standing principle that a § 103 rejection cannot be maintained when the asserted modification undermines either the operation or the purpose of the main ('649) reference - the rationale being that the prior art teaches away from such a modification (there is no motivation to modify the reference as

asserted). *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (U.S. 2007) ("[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be non-obvious."). Therefore the asserted hypothetical embodiment lacks correspondence to the claimed invention and the § 103(a) rejection of all claims is improper.

Applicant has amended claim 35 to remove a duplicative "is."

In view of the above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is encouraged to contact the undersigned at (651) 686-6633.

Respectfully submitted,

CRAWFORD MAUNU PLLC
1150 Northland Drive, Suite 100
St. Paul, MN 55120
651/686-6633

Dated: May 24, 2010

By: _____

Robert J. Crawford
Reg. No. 32,122
Eric J. Curtin
Reg. No. 47, 511